588
14

THE ANNALS

AND

MAGAZINE OF NATURAL HISTORY,

INCLUDING

ZOOLOGY, BOTANY, AND GEOLOGY.

(BEING A CONTINUATION OF THE 'ANNALS' COMBINED WITH LOUDON AND CHARLESWORTH'S 'MAGAZINE OF NATURAL HISTORY.')

CONDUCTED BY

P. J. SELBY, Esq., F.L.S., GEORGE JOHNSTON, M.D.,
CHARLES C. BABINGTON, Esq., M.A., F.R.S., F.L.S., F.G.S.,
J. H. BALFOUR, M.D., Prof. Bot. Edinburgh,

AND

RICHARD TAYLOR, F.L.S., F.G.S.

VOL. XII.—SECOND SERIES.

LONDON:

PRINTED AND PUBLISHED BY TAYLOR AND FRANCIS.

SOLD BY LONGMAN, BROWN, GREEN, AND LONGMANS; S. HIGHLEY; SIMPKIN, MARSHALL, AND CO.; PIPER AND CO.; *W.* WOOD, TAVISTOCK STREET; BAILLIÈRE, REGENT STREET, AND PARIS: LIZARS, AND MACLACHLAN AND STEWART, EDINBURGH: CURRY, DUBLIN; AND ASHER, BERLIN.

1853.

THE ANNALS

AND

MAGAZINE OF NATURAL HISTORY.

[SECOND SERIES.]

No. 72. DECEMBER 1853.

XXXIV.—*On the British* Tritons.

By JOHN HIGGINBOTTOM, F.R.S.

[With two Plates.]

THESE observations are the result of an unremitting attention to the natural history of the *Triton* during five years.

Regarding the physiology of each individual species of animal as a type and example of physiology in general, I imagine that the science would not be advanced more certainly than by an undivided investigation of one, and that a most interesting example.

My steps have been guided by the works of Dr. Rusconi and Professor Bell, and the following observations will be found curtailed or extended, as I imagine I have arrived at the same results as these two authorities have done, or added some new facts or views to what was previously known.

As the result of my observation, I may premise that I have not been able to find more than two species of Triton in the midland counties of England; that these, produced in water, are furnished in a peculiar manner with respiratory organs, first for aquatic respiration, and in the second place for atmospheric respiration; that after leaving the water they chiefly remain inhabitants of the land and breathe atmosphere for no less a period than three years uninterruptedly, passing through changes and states in their slow growth, which have misled naturalists into the opinion that there are more species than really exist; that at the expiration of the third year the animal in its mature state betakes itself for a second time for a season to the water, but solely for the purpose and during the period of reproduction; and that this view of the subject, the result of long and assiduous

THE ANNALS

AND

MAGAZINE OF NATURAL HISTORY.

[SECOND SERIES.]

No. 72. DECEMBER 1853.

XXXIV.—*On the British* Tritons.

By JOHN HIGGINBOTTOM, F.R.S.

[With two Plates.]

THESE observations are the result of an unremitting attention to the natural history of the *Triton* during five years.

Regarding the physiology of each individual species of animal as a type and example of physiology in general, I imagine that the science would not be advanced more certainly than by an undivided investigation of one, and that a most interesting example.

My steps have been guided by the works of Dr. Rusconi and Professor Bell, and the following observations will be found curtailed or extended, as I imagine I have arrived at the same results as these two authorities have done, or added some new facts or views to what was previously known.

As the result of my observation, I may premise that I have not been able to find more than two species of Triton in the midland counties of England; that these, produced in water, are furnished in a peculiar manner with respiratory organs, first for aquatic respiration, and in the second place for atmospheric respiration; that after leaving the water they chiefly remain inhabitants of the land and breathe atmosphere for no less a period than three years uninterruptedly, passing through changes and states in their slow growth, which have misled naturalists into the opinion that there are more species than really exist; that at the expiration of the third year the animal in its mature state betakes itself for a second time for a season to the water, but solely for the purpose and during the period of reproduction; and that this view of the subject, the result of long and assiduous

some force to move it with the fingers. On changing the water, small holes would appear in the sand, from which afterwards the siphons of the Tellens were protruded. These holes were in pairs, and about the tenth of an inch in diameter; one was a little funnel, into which the grains of sand kept sliding, the other a miniature crater of sand. After the siphons were extended, they frequently bent them down and explored the surface, being evidently dissatisfied with their circumstances. Slender as the branchial siphon is in *Tellina* and *Syndosmya*, it frequently attracts particles too large to pass freely, and which after oscillating for an instant halfway down, are suddenly expelled with a jerk. Besides watching the Bivalves, we sketched them whilst living, and dissected them—or at least cut them up in every possible way—when dead, and examined them with the microscope. Everything we saw confirmed the accuracy of the account given by Messrs. Alder and Hancock in the 'Ann. Nat. Hist.'

XLI.—*Centuries of North American Fungi.* By the Rev. M. J. Berkeley, M.A., F.L.S., and the Rev. M. A. Curtis, D.D.

It is proposed in this and a series of similar memoirs to characterise a number of new North American Fungi, which have rewarded the researches of Curtis, Ravenel, Bennett, Michener, Olney, Peters, Sartwell, Lindheimer, Wright, and other botanists. It was intended at first to publish the whole in an especial work dedicated to North American Mycology, but it was found impossible to prepare so voluminous a book as a complete account of the Fungi of the United States within any fixed time, and we have therefore thought it right to publish the multitudes of new species which exist in our Herbaria by way of Prodromus, trusting that the larger work may not be put off to the Greek Calends. We ought to observe that a considerable portion of Mr. Ravenel's specimens were accompanied by copious notes, of which we have constantly availed ourselves. Indeed his name might almost uniformly have been associated with our own, were it not for the inconvenience of giving three authorities for each new species.

1. *Agaricus* (Amanita) *polypyramis*, n. s. Pileo expanso nitido areolato verrucis centralibus crassis pyramidatis; stipite radicante, basi incrassato squamuloso, lamellis attingentibus. Curt. no. 2854. In thin woods, Nov., South Carolina.

Pileus 6 inches across, pure white, shining, areolate, beset with thick, rather small, pointed pyramidal warts, especially in the centre. Stem 6–8 inches high, 1–2 inches thick, solid, incras-

sated and rooting below, almost smooth with the exception of a few little narrow transverse scales. Ring broad, evanescent. Gills white, reaching the stem, quite linear at the extremity. Odour strong alkaline.

A remarkably fine species, differing from *A. nitidus* in its nearly smooth rooting stem, the base of which is much swollen, but by no means margined. It resembles also *A. Vittadini*.

2. *Agaricus* (Amanita) *monticulosus*, n. s. Pileo convexo areolato; verrucis marginalibus floccoso-pyramidatis, centralibus pyramidatis truncatis; stipite squamoso flocculento; lamellis liberis remotis. Curt. no. 2829, 2853. In moist and sandy woods, Sept., Nov., South Carolina.

Pileus $2\frac{1}{2}$–3 inches across, convex, areolate, with a wart in the centre of each areola; those towards the margin consisting of soft threads meeting in a point, but sometimes simply flocculent, the central warts angular, pyramidal, truncate, discoloured. Stem bulbous, scaly, flocculent, white; veil thick, at length distant. Gills free, ventricose, remote, forming a well-defined area round the top of the stem.

The warts are not hard and rigid as in *A. nitidus*, and the free remote gills separate it from that and the neighbouring species. The specimen from a sandy wood has the characters far less strongly marked than the others, in which the greater part of the margin appears at first to be flocculent.

3. *A.* (Lepiota) *cultorum*, n. s. Parvus; pileo hemispherico umbonato squamis granuliformibus exasperato; stipite brevi furfuraceo, annulo subcentrali; lamellis latis remotis; sporis utrinque acutiusculis. Curt. no. 2826. Among gourds in cultivated lands, July, South Carolina.

Pileus 1 inch or more across, hemispherical, umbonate, the border sometimes repand, clothed with very numerous brown granular scales. Stem $\frac{1}{2}$–1 inch high, 1 line thick, furfuraceous. Ring nearly central. Gills broad, ventricose, free, remote. Spores cymbiform, rather acute at either extremity, about $\frac{1}{2000}$ of an inch long.

A very pretty little species allied to *A. cristatus*, from which it is readily known by its oblique spores which are nearly three times as long. Perhaps it is really more closely allied to *A. acute-squamosus*, Weinm., which has far larger spores than *A. cristatus*, though not so large as this species.

4. *Agaricus* (Lepiota) *floralis*, Berk. & Rav. MSS. Pusillus, pileo plano, squamis floccosis brunneis vestito; margine striato; stipite gracili deorsum attenuato pileo concolore; annulo medio persistente; lamellis candidis tenuibus distantibus ventricosis liberis. Rav. no. 1011. On earth in gardens, South Carolina, July, H. W. Ravenel, Esq.

Pileus $\frac{1}{2}$–$\frac{3}{4}$ of an inch across, plane, membranaceous, covered with brownish floccose scales; margin striate. Stem $\frac{3}{4}$–1 inch high, not $\frac{1}{2}$ a line thick, of the same colour as the pileus, attenuated downwards. Ring persistent, situated about the middle of the stem. Gills white, broadly ventricose, distant, free. Spores white, $\frac{1}{230}$ of an inch long.

Closely allied to *A. fulvaster*, of which it has exactly the habit, but it has not the same bright colour, nor are the gills thick. It is still nearer to *A. cultorum*, but the plane and not hemispherical head and slender stem give it a very different appearance, and the colour is much more dingy in the dry plant. The spores vary very much in size, but we have seen none so long in this species as in *A. cultorum*.

5. *Agaricus* (Lepiota) *fulvaster*, n. s. Parvus; pileo plano-convexo candido e velo fulvo squamoso-maculato; margine striato-sulcato plicatoque; stipite gracili glabro sursum annulato; annulo fulvo; lamellis attingentibus distantibus crassiusculis candidissimis. Curt. no. 2550. Amongst grass in sandy soil, July, South Carolina.

Gregarious. Pileus 3–6 lines across, plano-convex, white, but spotted with the scaly remnants of the tawny veil; margin sulcate, sometimes splitting at the back of the gills as in *Coprinus*; centre tawny, subumbonate; substance brittle, thickish in the centre. Stem slender, nearly an inch high, scarcely $\frac{1}{2}$ a line thick, white, smooth, slightly thickened at the base, where there are a few byssoid rootlets, tough fibroso-spongy within. Ring tawny, subpersistent, situated about the middle of the stem. Gills ventricose, not crowded, attached to a distinct collar, which is not however separate from the stem, rather thick, of a pure white; margin even or slightly eroded.

A small but extremely elegant species allied to *A. seminudus*, Lasch.

6. *Agaricus* (Collybia) *Texensis*, n. s. Connato-cæspitosus; pileis glabris subcampanulatis fortiter umbonatis, obtusissimis carnosis albidis, stipite spadiceo velutino; lamellis latis ventricosis sinuato-adnatis candidis. Curt. no. 3162. Texas, C. Wright.

Connato-cæspitose. Pilei 2 inches or more across, carnose, subcampanulate or expanded, very strongly umbonate, extremely obtuse, dingy white. Stems 3 inches high, $\frac{1}{4}$ of an inch thick, of a rich brown velvety. Gills broad, ventricose, white, sinuated behind, slightly adnate.

Allied to *A. pudens*, but differing evidently in habit and in the smooth pilei.

7. *Agaricus* (Collybia) *detersibilis*, n. s. Gregarius; pileo plano umbilicato albido subfuligineo; margine striatulo; stipite solido pruinoso pileo concolori; lamellis adnatis albidis. Curt.

no. 3202. From the roots of grass in sandy soil, Aug., South Carolina.

Gregarious, subcæspitose. Pileus $\frac{1}{2}$–1 inch across, plane, umbilicate, smooth, dull white with a faint brownish tinge, margin slightly striate. Stem 1 inch or more high, 1 line thick, of the same colour as the pileus, solid, somewhat twisted, compressed and enlarged above, covered with a white meal which is easily rubbed off, downy at the base. Gills crowded, adnate, very narrow, whitish.

Allied to *A. atratus*, like which it is intermediate between *Omphalia* and *Collybia*.

8. *A.* (Mycena) *iocephalus*, n. s. Pileo e convexo plano carnoso-membranaceo sulcato violaceo; stipite pallido farinaceo basi villoso; lamellis distantibus adnatis angustis undulatis, pileo pallidioribus venoso convexis. Curt. no. 2549. Amongst rotten leaves in dried swamps, Aug., South Carolina.

Odour strong and offensive. Pileus $\frac{1}{2}$–$1\frac{1}{2}$ inch broad, convex, then plane, sulcato-striate, carnoso-membranaceous, dry, pale violet-purple. Stem $1\frac{1}{2}$–2 inches high, 1–2 lines thick, fistulose, pale, farinaceous; base incrassated, villous. Gills distant, attached, unequal, sometimes forked, rather narrow, somewhat undulated, interstices venose. Spores white.

A very elegant species, distinguished from all the strong-scented Mycenæ by its farinaceous stem and general appearance.

9. *A.* (Omphalia) *centenarius*, n. s. Valde cæspitosus; pileo conico convexo umbonato fragili sulcato; stipitibus fistulosis deorsum tomentoso-connatis, lamellis longe decurrentibus. Curt. no. 2888. On rotten logs, October, South Carolina, H. W. Ravenel, Esq.

Growing in dense clusters. Pileus $\frac{1}{2}$ an inch across, fragile, very thin, conical, convex, umbonate, whitish; margin coarsely striate. Stems very slender, 3–4 inches or more high, whitish hyaline, annularly mottled, fistulose, the cavity expanding above the gills, tapering and darker at the base, where they adhere by short white down. Gills white, arched, strongly decurrent.

This has just the habit of *A. tintinnabulum* and *A. myriadeus*, but has the characters of *Omphalia*.

10. *Agaricus* (Pleurotus) *Micheneri*, n. s. Cæspitosus; pileo infundibuliformi tenui luteo-albo; stipite solido gracili albo; lamellis distantibus angustis decurrentibus compositis pallide luteis. Curt. no. 3480. On decayed wood, Pennsylvania, Dr. Michener.

Cæspitose. Pileus $\frac{3}{4}$ of an inch across, infundibuliform, thin, yellowish white. Stem 2 inches high, about a line thick, white. Gills distant, compound, narrow, decurrent, pale yellow.

Allied to *A. lignatilis*.

11. *A.* (Pleurotus) *facifer,* n. s. Cæspitosus, phosphoreus, fusco-flavus; pileo tenui convexo subumbilicato; stipite subcentrali solido fibroso albido-pruinoso; lamellis angustis compositis decurrentibus. Curt. no. 3503. Pennsylvania, Dr. Michener.

Cæspitose, phosphorescent, brownish-yellow. Pileus 3 inches across, thin, convex, at length expanded, slightly umbilicate. Stem 5 inches or more high, $\frac{1}{3}$ of an inch thick, subexcentric, fibrous, slightly pruinose. Gills narrow, compound, decurrent. Spores white.

A highly curious species with the habit of *A. illudens.*

12. *A.* (Naucoria) *argillosus,* n. s. Pileo firmo convexo pallide fusco-luteo; stipite cavo deorsum attenuato albo; lamellis angustis adnexis ex albo argillaceis. Curt. no. 2908. On earth in woods, Oct., South Carolina, H. W. Ravenel, Esq.

Pileus 2–3 inches across, convex, subcoriaceous when dry, smooth, firm, of a light brownish yellow. Stem 4 inches high, $\frac{1}{4}$ inch thick, firm, cartilaginous, white, hollow, rooting, attenuated downwards. Veil none. Gills white, very numerous, narrow, slightly attached, at length discoloured from the very copious pale argillaceous, elliptic, subcymbiform, rather minute spores.

Agreeing with *A. Cucumis* in the inflected margin. The colour of the spores is purely argillaceous. We cannot point out however any species closely allied. The general appearance is that of *A. carnosus.* The spores are most copious, and when moistened feel very glutinous.

13. *A.* (Naucoria) *Curcuma,* n. s. Pileo hemispherico fusco-luteo, e floccis fasciculatis brevibus frequentissime squamuloso; carne lutea; stipite solido fusco fibrilloso; lamellis ventricosis emarginatis subadnatis ferrugineo-ochraceis. Curt. no. 2913. On an old stump, Nov., South Carolina, H. W. Ravenel, Esq.

Pileus $\frac{3}{4}$ inch across, hemispherical, dark brownish-yellow, densely covered with squamose fascicles of flocci. Flesh thin, yellow. Stem brown, 1–1$\frac{1}{2}$ inch high, $\frac{3}{4}$ line thick, solid, fibrillose, but not scaly, dilated at the base. Gills broad, ventricose, irregular, emarginate, slightly attached, dark ochraceous. Spores dark ferruginous. Mycelium tawny.

A very beautiful species allied to *A. erinaceus* and *siparius,* but the colours are different, the stem is solid and not clothed like the pileus, and the gills are emarginate.

14. *A.* (Galera) *crocosporus,* n. s. Pileo membranaceo e conico convexo, demum depresso viscido sordide fusco expallente sulcato; stipite albo sericeo-nitente; lamellis breviter adnatis e pallidis ferrugineo-crocatis. Curt. no. 2867. On a damp house-mat, Aug., South Carolina, H. W. Ravenel, Esq.

Gregarious. Pileus an inch or more across, membranaceous,

fragile, at first conical, then convex, and finally depressed, viscid, sordid brown, margin marked with prominent folds, rugose in drying, the apex however remaining even. Stem 3–4 inches high, slender, white with a silky lustre, fistulose, thickened at the base. Veil none. Gills numerous, regular, shortly adnate, ventricose, light ferruginous, at length saffron-yellow from the spores. Spores large, elliptic, subcymbiform.

This species belongs to the same group as *A. Ruderum*, but differs from all in its sulcate pileus and bright saffron-yellow spores.

15. *Agaricus* (Crepidotus) *nephrodes*, n. s. Pileo reniformi pallide flavido-tomentoso; stipite obsoleto; lamellis ventricosis pileo concoloribus. Curt. no. 1912. On damp rotten logs, South Carolina, H. W. Ravenel, Esq.

Gregarious, sometimes imbricated. Pileus 1 inch or more across, thin, suborbicular, reniform or subspathulate, plane, clothed with a dingy yellowish-white down; margin inflected, flesh-white. Stem sometimes quite obsolete, but when present very short. Gills pale like the pileus, gradually attenuated behind. Spores globose, rosy ferruginous.

This curious species has the habit of *A. petaloides*, especially of North Carolina specimens, but differs materially in the coloured spores, not to mention other points.

16. *Hiatula fragilissima*, Rav. MSS. Pileo plano subumbonato radiatim fisso marginibus rimarum luteo-pulverulentis interstitiis candidis; stipite luteo farcto; annulo mobili; lamellis remotis. Curt. no. 2899. On earth and decayed vegetables on the margin of swamps, H. W. Ravenel, Esq., July.

Solitary or gregarious. Pileus 2–3 inches across, plane, very thin and fragile, membranaceous, subumbonate, plicate, the edges of the folds covered with yellow dust, deepening in colour towards the centre, interstices white; umbo darker, slightly viscid. Stem 4–6 inches high, slender, somewhat bulbous, covered with white down at the base, yellow, very fragile, fistulose, the cavity stuffed with cottony fibres. Ring moveable. Gills white, thin, and membranaceous, rather distant, ending abruptly at the margin of a smooth area surrounding the top of the stem. Spores white, obliquely elliptic, rather large.

This, together with *A. discretus*, *A. Benzonii*, and one or two species from Brazil, form the genus *Hiatula* of Fries, which is at present unpublished. The outward resemblance of the species to *Coprinus plicatilis*, especially when dry, is very strong, though the more intimate characters are very different. The spores of *C. plicatilis* are much larger and broader, besides being very dark.

**Montagnites Candollei*, Fr. Ep. p. 241, var. *Texensis*; minor stipite transversim squamoso; sporis paullo majoribus. Curt. no. 3917. On sandy ground, Texas, C. Wright.

Stem 4½ inches high, ¼ of an inch thick, attenuated above and below, transversely squamose. Pileus 1 inch broad, spores rather larger than in the European and Algerian form.

It is possible that permanent characters might be detected in the plant when fresh, but we can see no other differences in the dried specimens than those pointed out above.

17. *Cortinarius* (Myxacium) *iodes*, n. s. Minor; pileo carnoso e convexo plano firmo violaceo-purpureo; carne alba; stipite solido tenui deorsum incrassato; lamellis e violaceo-cinnamomeis adnatis subemarginatis. Curt. no. 2895. Amongst moss and roots, Sept., South Carolina, H. W. Ravenel, Esq.

Cap 1½–2 inches across, convex, at length plane, viscid, firm, violet-purple; flesh thick, white. Veil fugacious, arachnoid. Stem 2–3 inches high, ½ an inch thick, solid, incrassated below. Gills violet, at length cinnamon, ventricose, adnate, subemarginate, irregular, sometimes forked.

Allied to *C. Salor*, but a smaller species and more brightly coloured.

18. *Paxillus solidus*, Rav. MSS. Pileo pulvinato rufo-fusco subtomentoso; stipite solido glabro, lamellis latis distantibus decurrentibus e cinereo-maculatis fuscis, postice anastomosantibus. Curt. no. 2884. In pine woods on the burnt ground, July, South Carolina, H. W. Ravenel, Esq.

Pileus 2–3 inches across, pulvinate, fleshy, at length plane in the centre, light reddish-brown, dryish, subtomentose; margin at length inflexed. Stem 2–3 inches high, ½ an inch thick, solid, smooth. Gills at first dingy cinereous and mottled, at length brown, broad, distant, decurrent, anastomosing and forming pores at the base. Spores elongated like those of a *Boletus*.

Distinguished from one or two somewhat similar species by its elongated spores which indicate a close affinity between the two genera.

19. *Paxillus Curtisii*, Berk. MSS. Sessilis imbricatus; pileis subreniformibus sulphureis pulveraceo-tomentosis; lamellis aurantiacis antice furcatis postice anastomosantibus, lateribus interstitiisque plicato-venosis fusco-atris. Curt. no. 1985, 2000, 2877. On pine logs, Upper Georgia and South Carolina, H. W. Ravenel, Esq.

Densely imbricated; pilei varying from 1–3 inches across, mostly reniform, sometimes slightly elongated, stemless, sulphur-coloured, umber-brown when dry, inclining to rufous pulverulento-tomentose; margin incurved. Substance tawny. Gills orange, then reddish-brown, black when dry, forked in front and then obtuse plicato-venose on the sides and interstices. Spores minute, ochraceous, rather oblong.

This at first sight resembles *P. panuoides*, but the gills are

more plicate, forked in front, and their spores far more minute. The substance also is of a brighter colour, as indeed is the whole plant. The gills are much like those of a *Cantharellus*.

20. *Paxillus reniformis*, Berk. and Rav. MSS. Pileo reniformi dense tomentoso brunneo-pallido; stipite obsoleto; lamellis latissimis primum albidis demum e sporis brunneo-ferrugineis. Rav. no. 1508. On oak rails, Sept., Sulphur springs, North Carolina, H. W. Ravenel, Esq.

Subimbricated. Pileus 1–3 inches across, light brown, reniform, densely tomentose. Stem obsolete; gills very broad, at first whitish, at length discoloured by the subferruginous broadish spore.

This species has somewhat the habit of *P. panuoides*, but differs in the nature of the pileus and the differently coloured gills.

21. *Hygrophorus hæmatocephalus*, n. s. Pileo convexo umbilicato sanguineo; stipite cavo compresso subrubro; lamellis crassis adnatis flavis. Curt. no. 2893. On the ground in pine woods, Aug., South Carolina, H. W. Ravenel, Esq.

Pileus 1–2 inches across, fleshy, brittle, convex, umbilicate, blood-red. Stem 1–2 inches high, $\frac{1}{2}$–2 lines thick, attenuated downwards, brittle, hollow, compressed, reddish above, becoming pale or yellow below. Gills ventricose, adnate, broad, thick, irregular, yellow, interstices even. Spores white, elliptic.

Allied to *H. cinnabarinus*, but differing in colour, in the adnate, not truly decurrent gills, and in the more regular, much larger spores. The hymenium in large specimens, when dry, has exactly the appearance of that of *Peziza aurantiaca*. A variety of *H. cinnabarinus* occurs with strongly veined interstices.

22. *Hygrophorus nitidus*, n. s. Pileo convexo umbilicato viscoso e flavo pallescenti; stipite fistuloso viscido; lamellis flavis decurrentibus. Curt. no. 2878. On earth in damp swamps, Sept., South Carolina, H. W. Ravenel, Esq.

Pileus $\frac{1}{2}$–1 inch across, convex, umbilicate, brittle, viscous or humid, dark yellow, paler in drying; substance very thin. Stem 3–4 inches long, slender, viscid, dilated above, of the same colour as the pileus, fistulose. Gills yellow, arched and ventricose, decurrent, interstices venose. Allied to *H. Cantharellus*, Fries. In colour, though darker, it resembles *H. ceraceus*, but the habit is very different, and the gills more decidedly decurrent.

23. *Hygrophorus Ravenelii*, n. s. Cæspitosus subcarnosus; pileo convexo humido aurantio glabro; carne flava; stipite fragili fistuloso flavo deorsum candido; lamellis emarginatis ventricosis pileo dilutioribus. Curt. no. 2889. On the earth in damp places, Sept., H. W. Ravenel, Esq.

Cæspitose. Pileus $1\frac{1}{2}$–$2\frac{1}{2}$ inches across, convex, smooth, moist, orange-red; flesh very thin, yellow. Stem 4–5 inches high,

$\frac{1}{4}$ inch thick, fistulose, brittle, yellow, whitish and attenuated below. Gills paler than the pileus, ventricose, deeply emarginate, but attached. Spores white.

This species is apparently most nearly allied to *H. puniceus*, but differs in the form of the pileus, which is extremely thin, and the slender tall equal stem.

24. *Lactarius illachrymans*, Berk. and Rav. MSS. Parvus; pileo e convexo plano umbilicato zonato pallide fulvo; stipite solido albo; lamellis albidis subdecurrentibus. Rav. no. 1306. In swamps, South Carolina, Sept., H. W. Ravenel, Esq.

Small. Pileus 1–1$\frac{1}{2}$ inch across, thin, plane, at length umbilicate, pale tawny, with two or three darker concentric zones. Stem 1–2 inches high, about 2 lines thick, solid, white. Gills dingy white, crowded, narrow, subdecurrent, not discharging any milky fluid when broken; taste slightly aromatic, pungent.

The warmer states of North America abound with *Lactarii* quite different from the European species, but though we have many in our Herbarium, as in most instances notes were unfortunately not secured from the living specimens, we are obliged for the present to delay their publication.

25. *Cantharellus Ravenelii*, n. s. Pileo irregulari subinfundibuliformi lento innato-fibroso luride flavo; stipite solido tomentoso albo; venis lamelliformibus luteis, decurrentibus, omnibus una desinentibus. Curt. no. 2879. On decayed logs, Aug., South Carolina, H. W. Ravenel, Esq.

Tough. Pileus 1–2 inches broad, irregular, subinfundibuliform, innato-fibrous, of a pale dull yellow; margin more or less undulated, subtomentose. Stem 1–2 inches high, about 2 lines thick, firm, solid, white, tomentose, thicker below. Veins lamellæform, bright yellow, branched, decurrent, but ending abruptly, their edge obtuse; interstices for the most part even. Spores white.

This very curious species approaches somewhat in characters to the genus *Panus*, but the edge of the lamellæform veins is obtuse.

26. *Cantharellus flabelliformis*, Berk. & Rav. MSS. Albidus; pileo membranaceo e stipite brevi laterali flabelliformi 2–3 sulcis concentricis notato tomentoso; venis furcato-anastomosantibus superficialibus. Rav. no. 1313. On fallen trunks, South Carolina, H. W. Ravenel, Esq.

Whitish ochraceous when dry. Stem 2 lines high, 1 thick, lateral, short, compressed or subcylindrical, tomentose. Pileus $\frac{1}{2}$ an inch or more long, membranaceous, spathulato-flabelliform, sometimes forked, tomentose, like the stem marked with two or three concentric furrows. Hymenium bordered. Veins shallow, forked, anastomosing.

A most curious and distinct species, with the habit of *Panus stypticus*. The hymenium is distinct from the stem and bordered

as if the stem were merely an elongation of the vertex. The nearest ally is perhaps *C. crispus*.

27. *Marasmius dichrous*, n. s. Pileo subtiliter tomentoso subvelutino fusco; stipite furfuraceo basi subdilatato; lamellis liberatis. Curt. no. 2834. On rotten wood in dry swamps, South Carolina.

Pileus 1 inch or more across, convex, dark brown, clothed with close matted down, sometimes appearing velvety. Stem 1–1½ inch high, scarcely a line thick, brown, clothed with furfuraceous down; base slightly dilated, villous. Gills at first adnate, separating from the stem, and sometimes leaving a naked area round it, moderately distant, ventricose; interstices nearly even. Spores white.

Nearly allied to *M. ramealis*. It is however a larger species, and remarkable for its dark brown pileus.

28. *Marasmius pusio*, n. s. Pusillus; pileo membranaceo fusco-purpureo striatulo; stipite gracili subtiliter tomentoso opaco; lamellis adnatis crebris ventricosis albidis. Curt. no. 2043. On the bark of trees, summer and early autumn, South Carolina, H. W. Ravenel, Esq.

Pileus scarcely more than a line broad, membranaceous, regular, slightly convex, pale purple-brown, delicately striate, opake, very minutely pulverulent. Stem 8–10 lines high, very slender, whitish, obscurely tomentose or pulverulent. Gills moderately broad, numerous, ventricose, adnate, dirty white.

A minute species, resembling somewhat *Marasmius graminum*, but not very closely allied. The surface of the pileus resembles that of such species as *M. ferrugineus*, the stem however is more like that of *M. opacus* or *M. spongiosus*.

29. *Marasmius brevipes*, Berk. & Rav. MSS. Pileo convexo estriato atro-sanguineo; stipite brevi filiformi aterrimo nitido e mycelio repente similari enato; lamellis paucis adnatis rufis. Rav. no. 1527. On dead twigs of oak, June, Santee Canal, South Carolina, H. W. Ravenel, Esq.

Pileus 1–2 lines broad, convex, dark blood-red; margin even; stem filiform, jet-black, quite smooth, 1–2 lines high, springing from creeping mycelioid threads of the same nature with itself; gills ventricose, few, adnate, rufous.

Allied to *M. hæmatocephalus*, &c., but distinguished at once by its short polished stem and dark gills. The colour of the pileus is nearly that of *M. atrorubens*.

30. *Lentinus parvulus*, n. s. Cæspitosus; pileo submembranaceo infundibuliformi glabro, margine revoluto; stipite gracili lanuginoso; lamellis angustis dichotomis decurrentibus albis. Curt. no. 3624. On decayed wood, Pennsylvania, Dr. Michener.

Cæspitose. Pileus ¾–1 inch across, membranaceous, irregular,

infundibuliform, smooth, dirty white; margin finely revolute; stem 1 inch high, not a line thick, nearly smooth above, lanuginous, below pale brown; gills extremely narrow, entire, often dichotomous, white, strongly decurrent. Spores white.

An elegant little species, and quite a dwarf in a genus containing many of the most magnificent fungi.

31. *Lentinus Micheneri,* n. s. Pileo sinuato sublobato umbilicato glabro; stipite brevi incurvo spongioso-velutino fusco; lamellis latiusculis laceratis crassis breviter decurrentibus. Curt. no. 3962. On decaying timber, Pennsylvania, Dr. Michener.

Pileus about 2 inches across, irregular, lobed and sinuated, umbilicate, smooth; stem about 1 inch high, 2 lines or more thick, clothed with brown spongy down, but more especially below; gills rather thick, broadish, shortly decurrent.

A very distinct species, to which we can point out no close ally. The gills resemble those of *L. cochleatus.*

32. *Lentinus pallidus,* n. s. Cæspitosus; pileo convexo margine repando sordide luteo-albo; stipite fibroso-squamoso deorsum furfuraceo, lamellis decurrentibus crassiusculis. Curt. no. 2586. On dead wood, South Carolina, H. W. Ravenel, Esq.

Cæspitose, connate at the base. Pileus 3-4 inches broad, convex, slightly depressed in the centre, dingy yellow-white, margin repand; stem 4 inches high, $\frac{1}{4}$ of an inch or more thick, rough above, with a few coarse squarrose fibres, furfuraceous below. Gills white, decurrent, lacerated, interstices venous. Spores white.

Allied to *L. lepideus,* but the pileus is quite smooth, and the stem rough with linear processes torn from its substance.

33. *Panus levis,* n. s. Pileo plano-depresso villoso, stipite sursum attenuato tomentoso deorsum strigoso pallidis; lamellis latis distantibus integris deorsum villosis. Curt. no. 2949; Rav. no. 808. On trunks of trees, Sept., H. W. Ravenel, Esq.

Pileus 3 inches across, orbicular, slightly depressed, white, clothed in the centre with long intricate villous rather delicate hairs, which are shorter and more matted towards the inflected margin. Substance rather thin. Stem 3 inches high, $\frac{1}{2}$ an inch thick, attenuated upwards, generally excentric, sometimes lateral, not rooting, solid, strigose below, closely villous like the margin of the pileus above. Gills rather broad, entire, decurrent, but not to a great degree; the interstices even above, behind clothed with the same coat as the top of the stem. Spores white.

A most distinct species, remarkable for its great lightness when dry, and the long, villous, but not compressed or compound, flocci of the pileus. Sometimes the centre of the pileus becomes quite smooth when old.

34. *Panus alliaceus,* n. s. Pileo sessili postice subeffuso al-

bido-fulvo subtiliter tomentoso, margine hispidulo scabriusculo involuto; lamellis subdistantibus postice attenuatis concoloribus. Curt. no. 2862; Rav. no. 1349. On the putrescent stumps apparently of *Nyssa*; also on *Salix nigra*, H. W. Ravenel, Esq.

Smell strong alliaceous, highly offensive. Pileus 2 inches or more across, stemless, suborbicular, at length slightly elongated, minutely tomentose behind, more distinctly so in front, where it is sometimes rather scabrous and hispid, dirty white inclining to tawny or yellow, especially towards the edge; often more or less effused behind. Gills of the same colour as the pileus, distant, entire, moderately broad, attenuated behind, interstices even. Spores white with a very slight yellow tinge, minute, oblong, strongly curved.

A fine species, apparently allied to *P. fœtens*, but without the least trace of a stem. The curved spores are very remarkable. In the young plant the pileus is nearly resupinate.

35. *Xerotus lateritius*, n. s. Pileo sessili reniformi convexo lateritio; lamellis paucis atro-fuscis. Curt. no. 2563. On damp decayed logs, Dec., Santee Canal, South Carolina, H. W. Ravenel, Esq.

Solitary. Pileus reniform, attached by a little down, convex, deep brick-red, $\frac{1}{4}$ of an inch across; margin involute. Stem obsolete. Gills few, dark brown, radiating from the point of attachment.

Resembling *X. nigrita*, Lév., but distinguished at once by its brick-red pileus. Dr. Léveillé has sent us either the same or a closely allied species which he received from the southern part of Chili.

**Xerotus nigrita*, Lév., Ann. d. Sc. Nat. Feb. 1846, p. 120; Curt. no. 2868; Rav. no. 892, 917. On fallen trunks of *Laurus Caroliniensis*, *Rhus toxicodendron*, and *Rhus radicans*. South Carolina, Feb.–May, H. W. Ravenel, Esq.

Tawny or brownish when dry; there is a very short lateral stem, as is also the case in Dr. Léveillé's authentic specimens from Manilla, gathered by Perrotet. This at first resembles *A. niger*, Schwein., but is in reality very different.

Apparently a distinct species, strongly grooved and thinner than *X. nigrita*, occurs on dead stems of Vine, no. 1975, but unfortunately perfect specimens have not at present been gathered.

36. *Lenzites rhabarbarina*, n. s. Fulvo-rhabarbarina; pileo sessili reniformi sulcato-zonato rugoso spongioso velutino; margine acutiusculo; lamellis dentatis subsinuatis. Curt. no. 3849. On pine stumps, South Carolina.

Pileus $1\frac{1}{2}$ inch across, scarcely $\frac{3}{4}$ inch long, of a rich tawny, inclining in parts to rhubarb-yellow, sessile, reniform, rather thin, coriaceous, marked with two or three irregular furrows, and rough

with little radiating elevations, clothed with matted down, which in the younger part appears velvety, in the older spongy. Gills moderately distant, toothed, somewhat sinuated, rhubarb-coloured.

Very distinct from every form of *L. abietina* and *L. sæpiaria*, nd approaching somewhat to *L. cinnamomea*, Fr., and still more closely to *L. subferruginea*, Berk., but its bright colours are very peculiar, which added to its grooved and corrugated surface and somewhat sinuated toothed gills readily distinguish it.

37. *Boletus Curtisii*, Berk. MSS. Pileo convexo viscosissimo aureo-luteo; stipite inæquali exannulato cavo stramineo; poris subliberis demum fulvis. Curt. no. 3212. On the earth in pine woods, South Carolina.

Pileus 1 inch or more across, convex, subhemispherical, golden yellow, clothed with a very viscid pellicle; stem irregular, unequal, hollow, ringless, 2–3 inches high, $\frac{1}{4}$ of an inch thick, pale or straw-coloured; pores hollowed out at their junction with the stem, nearly free, at length fulvous. Spores subelliptic, slightly attenuated at either end, ferruginous yellow.

A very beautiful and distinct species, as are several from the southern United States. Some of these are now characterized, but we are obliged to omit some very curious forms for want of more perfect notes.

38. *Boletus Ravenelii*, n. s. Pileo e convexo plano juniori viscidulo, pulvere læte sulphureo (veli vestigiis) vestito; carne albida; stipite tenui velo flocculento pulveraceo sursum in annulum fugacem contextum operto; poris flavis adnatis, tactis virescentibus. Curt. no. 1970. *B. sulphureus*, Rav. MSS. no. 810. In pine woods on the ground, July, South Carolina, H. W. Ravenel, Esq.

Solitary. Pileus 2 inches across, convex, at length plane, somewhat viscid when young, covered with a bright yellow powder the remains of the veil; flesh whitish, unchanging, tasteless. Stem 3 inches high, $\frac{1}{4}$–$\frac{1}{3}$ of an inch thick, solid; veil arachnoid, covered with dust, which stains the stem as well as the cap, forming a fugacious ring. Pores adnate, roundish and angular, large, yellow, changing to greenish when bruised. Spores ochraceous, elliptic, containing sometimes a single globose nucleus.

A most splendid species closely allied to *B. hemichrysus*, and, like that, remarkable for the pulverulent veil.

39. *Boletus hemichrysus*, n. s. Pileo nitide aureo rivuloso floccoso pulvere flavo insperso; stipite brevi e flavo-rufescente; tubis adnatis subdecurrentibus spadiceis. Curt. no. 2928. Attached to roots of *Pinus palustris*, H. W. Ravenel, May, June.

Pileus 6–8 inches across, convex, at length plane or irregularly depressed, very bright golden-yellow, squamuloso-floccose,

disposed to crack, sprinkled with copious yellow dust. Flesh yellow, tasteless. Mycelium yellow. Stem short, varying in thickness, sometimes $1\frac{1}{2}$ inch in diameter, yellowish tinged with red, irregular, contracted below. Veil none. Hymenium rich red-brown. Tubes angular, adnate, slightly decurrent. Spores ochraceous, dingy, oblong, minute.

A very splendid species, remarkable for its pulverulent pileus and habit. It resembles *B. variegatus*. The dust, it is to be observed, is not due to the presence of *Sepedonium*.

40. *Boletus decipiens*, n. s. Pileo sicco pallide flavido sub lente sericeo; carne alutacea; stipite æquali spongioso; velo floccoso; hymenio flavo, poroso. Curt. no. 1312. In thin woods, Aug., South Carolina.

Pileus 2 inches across, rather dry, minutely silky, whitish yellow or pale buff; flesh buff, $\frac{1}{3}$ of an inch thick. Stem 2–$2\frac{1}{2}$ inches high, 3–4 lines thick, solid but spongy. Veil evanescent, floccose, adhering for a time to the margin. Hymenium plane or rather concave, yellow, consisting of large unequal flexuous tubes. Spores ochraceo-ferruginous, oblong, rather minute.

This is so like *Paxillus porosus*, Berk., when dry, that it is scarcely distinguishable without examining the spores, which are very different. Its affinities are however clearly with *B. flavidus* and its allies, from which it is distinguished by its large radiating pores resembling multiseptate gills.

41. *Boletus conicus*, Rav. MSS. Pileo subconico flavo-flocculento; carne alba immutabili; stipite glabro sursum attenuato; hymenio incarnato; poris minoribus. Curt. no. 2929. In damp pine woods, South Carolina, H. W. Ravenel, Esq.

Pileus 1–2 inches across, pulvinate, subconical, clothed with fasciculate adpressed yellowish flocci. Flesh white, not changing when cut, tasteless. Stem 2 inches high, $\frac{1}{2}$ an inch thick, pale yellow, smooth, attenuated upwards. Mycelium white. Hymenium ventricose, flesh-coloured, at length darker from the spores; tubes small, subfimbriate, angular. Spores fusiform, subferruginous.

Allied to *B. scaber*, but differing in the fasciculato-floccose pileus, smaller tubes, and smooth stem.

**Polyporus lepideus*, Fr. Ep. p. 430; Curt. no. 3068. On dead wood, New York, Dr. Sartwell.

The stem in the American specimens is sometimes reticulate and sometimes even. The pileus is more tawny, but the whole plant agrees in other respects with an authentic specimen of this very rare species.

42. *Polyporus* (Mesopus) *persicinus*, n.s. Stipite centrali obeso pileo crasso maximo pulvinato centro depresso velutino fulvo-brunneo quandoque purpurascenti confluenti; contextu aquoso-

spongioso zonato pallido lilacino; poris parvis albidis. Curt. no. 2945; Rav. no. 1114. At the foot of trees in pine woods, June, South Carolina, H. W. Ravenel, Esq.

Pileus 8–10 inches across, thick, pulvinate, depressed in the centre, obsoletely zoned, clothed with coarse tawny-brown, fawn-coloured, or sometimes brownish-purple velvety down, heavy and watery when fresh, light and spongy when dry. Margin lobed or waved, very obtuse. Substance zoned, the zones sometimes dark like the pileus, whitish tinged with lilac. Stem short, coarse, obese, conical, confluent with the pileus, nearly 3 inches thick above. Pores small, dirty white, decurrent, dissepiments thin.

Allied to *P. tabulæformis, Schweinitzii,* &c., but at once distinguished by its whitish pores and substance. The surface of the pileus is somewhat like that of *P. resinosus.* The name alludes to the swelling coarsely velvety margin, and the pale peach-blossom hue of the substance when dry.

43. *Polyporus* (Mesopus) *flavo-virens,* Berk. & Rav. MSS. Pileo irregulari lobato subreniformi sordide flavo zonis flavo-virentibus primum notato; contextu albo; stipite centrali lateralique; hymenio ex albo flavo-virente; poris mediis decurrentibus. Rav. no. 1490. In woods, Sept., upper part of South Carolina, H. W. Ravenel, Esq.

Pileus 3–5 inches across, irregular, more or less distorted, reniform or suborbicular, subtomentose, dirty yellow, with obscure concentric bands of greenish yellow which disappear in age; edge thin, acute; substance white. Stem 1–1$\frac{1}{2}$ inch high, $\frac{1}{4}$–1 inch thick, coloured like the pileus, solid, central or lateral. Hymenium whitish when young, in age greenish-yellow, strongly decurrent; pores middle-sized, angular, irregular, in age lacerated, passing downwards almost to the base of the stem.

This species must be placed near *Pol. rufescens,* but we can point out no closely allied species. It resembles in some respects *Pol. cristatus.* The substance, when dry, tears into fibres, but is rather tough. It is a very remarkable species.

44. *Polyporus* (Mesopus) *dependens,* n. s. Totus cinnamomeus; pileo cyathiformi vertice in stipitem gracilem cylindricum elongato striato-sericeo subzonato; poris parvis angulatis. Curt. no. 3691. On the under side of pine wood lying on the ground, South Carolina.

Pileus $\frac{1}{2}$ to $\frac{3}{4}$ of an inch across, cyathiform or turbinate, with the vertex elongated into a slender cylindrical stem $\frac{1}{4}$ of an inch high and 1 line thick, often attached by an orbicular spongy disk, tawny cinnamon, as is the whole plant, sericeo-striate, tomentose, somewhat zoned. Pores small, $\frac{1}{120}$th of an inch across, angular, edge slightly toothed.

This perhaps would more properly be placed in *Resupinati*, but the stem is very distinct, so as to make the species at first sight resemble some central-stemmed *Thelephora*, especially when the pile are proliferous, as is sometimes the case. We know of no species of which it can be a transformation, and it is well worthy of notice. The surface of the pileus resembles that of *P. radiatus*.

**Polyporus Boucheanus*, Fr. Ep. p. 438, var. *peponinus*. Pileo orbiculari depresso azono glaberrimo; stipite brevi candido leproso; poris amplis angulatis elongatis; dissepimentis rigidis acie irregulari. Curt. no. 2482. On fallen branches, South Carolina.

Pileus $1\frac{1}{2}$ inch across, orbicular, depressed, perfectly smooth, shining. Stem short, central, clothed with white leprous meal; occasionally lateral, in which case the pileus is somewhat elongated. Pores about $\frac{1}{30}$th of an inch wide, above a line long, angular, decurrent; dissepiments rigid, their edge irregular.

Differs from the normal form of *Pol. Boucheanus*, as it occurs in Ohio, in its smooth pileus. Fries speaks of the thin dissepiments, but Klotzsch does not describe them as peculiarly thin. In the Ohio and Carolina species, though not thick, they are very rigid when dry.

45. *Polyporus* (Pleuropus) *amygdalinus*, Berk. & Rav. MSS. Pileo flabelliformi carnoso sordide luteo maculato odorato; stipite obsoleto; poris parvis sinuosis irregularibus. Rav. no. 1153. On the sides of rotten oak logs, Newhope, South Carolina, H. W. Ravenel, Esq.

Subimbricated. Pileus 2–4 inches across, flabelliform, convex, carnose, dingy yellow with irregular darker patches; odour strong, like that of vanilla or almonds. Stem obsolete. Hymenium white, pores small, $\frac{1}{84}$th of an inch across, sinuous, irregular, dissepiments thin, edge toothed.

Resembling some form of *P. squamosus*, but at once distinguished by its small pores.

46. *Polyporus dealbatus*, n. s. Pileo suberoso reniformi contracto pallido zonato sericeo-striato farinaceo; contextu albo demum friabili; margine acuto; stipite definite laterali irregulari flexuoso rugoso hic illic pallide lateritio; poris minimis pallidis. Curt. no. 1524, 1949; Rav. no. 836. On the ground. South Carolina.

Pileus about 1 inch across, reniform, convex, faintly zoned in the centre, more strongly towards the margin, slightly rugose, of a very pale rufous or brown tinge, sericeo-striate, mealy as if washed over with a whitewash which gives the whole a dull appearance; margin acute, in larger specimens much contracted; substance white, powdery when scraped. Stem nearly

3 inches high, $\frac{1}{4}$ inch thick, distinctly lateral, irregular, flexuous, here and there of a very pale brick-red, mealy like the pileus, incrassated at the base. Hymenium, at least when dry, white or pale rufous; pores extremely minute.

This has the habit of *P. auriscalpium*, P., but is a totally different species and certainly undescribed. Its very minute pale pores, its friable substance like that of *P. officinalis*, and other points will readily distinguish it. The whitewashed appearance is not assumed at first. Young individuals are simply sericeo-striate. It may be stated here that *P. xalapensis*, Berk., is *P. prolificans*, Fr., and *P. Caroliniensis*, Berk. & Curt., *P. biformis*, Fr.

47. *Polyporus* (Pleuropus) *mutabilis*, n. s.* Pileo coriaceo rigido flabelliformi zonato luteo-albo, primum subtiliter sericeo striato tomentoso demum glabrescente crebrizonato deorsum in stipitem definite lateralem variæ longitudinis angustato; poris minimis albidis. Curt. no. 2256, 2858, 2859, 2943. On decayed logs, Aug., South Carolina, H. W. Ravenel, Esq.

Pileus yellowish white, coriaceous, tough and rigid, flabelliform or spathulate, $2\frac{1}{2}$ inches broad and long, but varying greatly in form and size, sometimes much elongated, at first minutely tomentose and marked with raised silky lines, at length becoming smooth, concentrically zoned, the zones often depressed; narrowed behind into a stem varying from a few lines to 3 inches, and about $\frac{1}{3}$rd of an inch thick; margin very thin, lobed. Hymenium whitish, pores very minute, punctiform, except where they are lacerated or confluent.

A very curious species nearly allied to *P. dealbatus*, but differing in many essential characters. Both occur in Cayenne, unless the specimens transmitted by Dr. Montagne have been misinterpreted. It should be remembered that in those cases where the stem is most elongated, it penetrates into the soft

* *Polyporus cervino-nitens*, Schwein.! MSS. Pileo flabelliformi tenui radiato-rugoso plicatove ligneo-coriaceo sublobato cervino-fulvo zonis crebris obscurioribus sericeo-striato, hymenio contextuque subconcoloribus dilutioribus, poris minimis. Surinam. Herb. Schweinitz.

Pileus flabelliform, 2 inches high, above 2 inches broad, thin, of a hard coriaceous substance, slightly lobed, attenuated behind into an obscure stem, radiato-rugose or plicate, sericeo-striate, of a bright tawny fawn-colour approaching to brick-red, with narrow darker zones, margin very thin. Substance and the bordered hymenium paler, pores punctiform, very minute.

A very beautiful species, confounded in our paper in the Journal of the Academy of Natural Sciences of Philadelphia, N.S. vol. ii. p. 278, with *P. modestus*, Kze, which is however very near to *P. affinis*, if the specimen in Weigelt's *Exsiccata* is rightly named.

wood, so that only about an inch can properly be called stem. Some specimens approach very near to *P. luteus*, but the pores in that species are still smaller, in addition to other differences.

48. *Polyporus* (Merisma) *Berkeleii*, Fr. "Latissimus, pileo suberoso tenui utrinque applanato longitudinaliter rugoso [subtiliter tomentoso] alutaceo, margine acuto undulato lobato, contextu porisque tenellis mollibus inæqualibus pallidioribus." Fr. Nov. Symb. p. 40. Curt. no. 547. Upper Carolina.

Yellowish white. Pilei imbricated, nearly a foot long, and more in breadth, thin in proportion to the length, marked with irregular zones and numerous radiating ridges and lines, tomentose, but not uniformly; margin thin, acute, lobed and waved. Substance $\frac{1}{2}$ an inch or more thick, contracting greatly in drying. Pores middle-sized or large from confluence, irregular, angular, sinuated, dissepiments thin.

Nearly allied to *P. lobatus*. Substance not friable as in *P. sulphureus* when dry, to some specimens of which it bears a certain resemblance, but tough and corky.

49. *Polyporus* (Merisma) *trichrous*, n. s. Cæspitoso-multiplex, succoso-cascosus, subtiliter tomentosus hic illic velutinus umbrino pallescens zonatim obscurior; contextu corneo; hymenio candido, poris minutis subæqualibus angulatis, dissepimentis integris denticulatisque. Curt. no. 2944. *P. tricolor*, Rav. no. 973. On old logs, Apr., May, South Carolina, H. W. Ravenel, Esq.

Pileus many inches broad, stemless, various, mostly dimidiate, with more or less intricate lobes, undulated, rugose, or nearly even, umber-brown, at length paler with darker bands, but not truly zoned, finely tomentose, in parts velvety; margin inflected or straight. Substance salmon-coloured, becoming white when dry, soft but very tough. Hymenium white, very slightly tinged here and there with yellow. Pores minute, $\frac{1}{60}$th of an inch across, moderately long, mostly equal, angular; dissepiments thin; edge entire or variously toothed. Smell pleasant; taste scarcely any.

This species has very much the appearance of *P. sulphureus*, differing principally in its umber-brown pileus, salmon-coloured substance, and white tubes. The substance is tough, and not friable. It seems just intermediate between *P. sulphureus* and *P. imbricatus*. We have been unable to retain Mr. Ravenel's name, as it is preoccupied by Léveillé.

50. *Polyporus* (Anodermeæ) *Halesiæ*, n. s. Pileo effuso reflexo pallido zonato, zonis obscurioribus; tomento postice subspongioso antice lineatim subfasciculato vestito; poris minutis cinereo-cervinis. Curt. no. 2027, 2028. On branches of *Halesia tetraptera*, Upper Georgia.

Pileus effused, broadly reflected, pale fawn-coloured, with one or two darker zones, clothed with rather spongy down behind, but in front radiato-striate; margin undulated, very thin. Hymenium fawn-coloured, inclining to cinereous. Pores minute, angular; dissepiments thin.

A resupinate form occurs with the margin slightly reflected, and the pores darker and smaller.

Allied to *Pol. crispus*, but very distinct.

XLII.—*Note on the Transverse Processes of the Two-toothed Dolphin* (Hyperoodon bidens). By Prof. Owen, F.R.S. &c.

Two kinds of 'transverse processes' are recognized in vertebrate skeletons answering to the parts defined by Soemmerring, in the human cervical vertebræ, as the 'radix prior, seu antica, e corpore, processus transversi,' and the 'radix postica, ex arcu, processus transversi': the so-called 'processus transversus' being now known to consist of a rudimental rib (pleurapophysis) confluent with the process from the body and the process from the arch. Such processes are more developed and better defined in the lower animals, where, instead of being 'anterior' and 'posterior,' they are 'inferior' and 'superior' transverse processes. I have proposed the single-worded term 'parapophysis' for the 'inferior transverse process' or 'radix antica,' &c., and 'diapophysis' for the 'superior transverse process' or 'radix postica,' &c.

The transverse processes in fishes are, as John Müller and others have shown, 'parapophyses'; those of Mammalia, where they occur as a single pair, are 'diapophyses.' The Hyperoodon, however, shows a structure which leads to the conclusion that the transverse processes of the vertebræ with one pair of such are 'parapophyses,' as in fishes.

In the first to the sixth pairs of thoracic ribs the head of the rib articulates with the interspace of the vertebral bodies (centrums) and to contiguous parapophysial tubercles; the tubercle of the rib articulates with a diapophysis from the base of the neural arch: in the seventh dorsal vertebra a well-marked parapophysis is developed from the centrum, for articulation with the head of the rib, the tubercle still articulating with the diapophysis above. In the eighth dorsal vertebra the diapophysis abruptly ceases to be developed; the tubercle of the rib, which was reduced in the seventh pair, also disappears; and the eighth rib articulates, like the ninth, by the head only to a progressively elongating parapophysis: the long transverse pro-